

CLAIMS

What is claimed is:

1. *(currently amended)* A medical wireless capsule-type endoscope system, comprising a wireless endoscope capsule (100A) and a portable image recording device (100B); the wireless endoscope capsule (100A) includes a housing (12), an optical front cover (2) connected to the housing (12), an LED array (3) arranged within the housing (12) in sequence, a lens (4) and a power switch module (8); characterized in that, the wireless endoscope capsule (100A) further includes an image sensor (5), a the first microprocessor (6) for transforming the image information into a compressed JPEG format, ~~an~~ the first RF transceiver module (9) and a transceiver antenna (10), wherein the signal output of the image sensor (5) is connected with the I/O port of the first microprocessor (6), the image information received is transformed into the compressed JPEG format by the first microprocessor (6) and then sent to the data receiving terminal of the first RF transceiver module (9), the information is sent to the portable image recording device (100B) via the antenna (10) by the first RF transceiver module (9) after the control commands received from the image recording device by the antenna (10) are sent by the first RF transceiver module (9) to the first microprocessor (6) for processing, ~~the control terminals~~ for the operating modes of the LED array (3), the image sensor (5) and the first RF transceiver module (9) are controlled by the I/O ports of the first microprocessor (6); the portable image recording device (100B) includes a transceiver antenna array (100F), ~~an~~ the second RF transceiver module (13) ~~amicroprocessor~~ the second microprocessor (14) and a storage unit (15) connected with the bus thereof, wherein the second RF transceiver module (13) communicates the information received from the wireless endoscope capsule (100A) by the antenna array (100F) to the second microprocessor (14) by the bus or sends the information from the control terminals of the second microprocessor (14) to the wireless endoscope capsule (100A) by the antenna array (100F).

2. *(currently amended)* The medical wireless capsule-type endoscope system as claimed in Claim 1, characterized in that, a temperature sensor (11A) and/or a pressure sensor (11B) are mounted within the ~~capsule~~ housing (12) of the wireless endoscope capsule (100A), wherein the pressure sensor (11B) is closely mounted on the inner wall of the housing (12),

and the outputs of the temperature sensor (11A) and the pressure sensor (11B) are connected to the I/O ports of the first microprocessor (6).

3. (*currently amended*) The medical wireless capsule-type endoscope system as claimed in Claim 1, characterized in that, said system further includes a wireless terminal (100G) connected with the computerized medical image workstation (100E); the information from the control terminals of the second microprocessor (14) of the portable image recording device (100B) is sent to the wireless terminal (100G) of the computerized medical image workstation (100E) by the second RF transceiver module (13) of the portable image recording device (100B) ; and/or the information received from the wireless terminal (100G) of the computerized medical image workstation (100E) by the antenna array (100F) is sent by the wireless transceiver module (13) of the portable image recording device (100B) to the second microprocessor (14) by the bus for processing, and then sent to the capsule wireless endoscope capsule (100A).

4. (*currently amended*) The medical wireless capsule-type endoscope system as claimed in Claim ~~3~~ 1, characterized in that, ~~the wireless terminal connected with the computerized medical image workstation (E) is a wireless terminal with USB ports (G) or a GPRS terminal (H), and the GPRS terminal wirelessly exchanges information with the wireless terminal with USB ports connected with the computerized medical image workstation~~ said system also includes a GPRS terminal (100H) and a wireless terminal (100G) connected with the computerized medical image workstation (100E), the portable image recording device (100B) exchanges data with the GPRS terminal (100H), and the GPRS terminal (100H) exchanges data with wireless terminal (100G) of the computerized medical image workstation (100E) through GPRS mobile network (100H1).

5. (*currently amended*) The medical wireless capsule-type endoscope system as claimed in Claim ~~1 or~~ 3, characterized in that, said system further includes a storage medium reader (100D) wiredly connected with the computerized medical image workstation (100E) and a storage medium (100C)(~~C~~), and the storage medium (100C) is connected with the second microprocessor (14) of the portable image recording device (100B) through the socket by the bus.

6. (*currently amended*) The medical wireless capsule-type endoscope system as claimed in Claim 1, characterized in that, said power switch module (8) is magnetic switch module and the magnetically controlled switch (S1) of the magnetic switch module (8) is switched on in the magnetic field, and after the magnet is removed, it is switched off.

7. (*new*) The medical wireless capsule-type endoscope system as claimed in Claim 1, characterized in that, the system further includes a wireless terminal (100G) connected with the computerized medical image workstation (100E) and a CDMA, GSM or WLAN terminal (100H); the portable image recording device (100B) exchanges data with the CDMA, GSM or WLAN terminal (100H), and said CDMA, GSM or WLAN terminal (100H) exchanges data with wireless terminal (100G) of the computerized medical image workstation (100E) through corresponding mobile network.

ABSTRACT

A medical wireless capsule-type endoscope system comprises a swallowable wireless endoscope capsule (100A) and a portable image recording device recorder (100B). The wireless endoscope capsule (100A) includes an image sensor (5), a first microprocessor (6) for transforming the compressing image information into a compressed JPEG format, the first a RF transceiver module (13) (9) and an antenna (10). The portable portage image recorder recording device (100B) includes an antenna (100F), a the second RF transceiver module (13) and the second microprocessor (14). The system also include includes a wireless terminal end (100G) which is connected to a medical imaging workstation (100E) to exchange information between the system and the medical imaging workstation (100E).